



# Potassium Matters



## Potassium Matters:

Why managing your potassium levels is so important – a leaflet for people with kidney disease

This leaflet has been fully funded by CSL Vifor UK and was co-developed with the National Kidney Federation with input from Pumping Marvellous Foundation.





## Foreword

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**As a kidney dietitian, I have many years of experience helping people living with conditions such as chronic kidney disease and have supported them with managing their potassium levels.**

A common question I get asked by patients is how they can effectively manage potassium in their diet and do so without having to sacrifice the foods and flavours that they love. Eating well for your kidneys and reducing your dietary potassium intake should not feel restrictive. It's important to know that avoiding certain foods is not always necessary. You can still enjoy delicious meals by making small changes to recipes and learning the appropriate quantities and preparation techniques for high potassium foods.

That is why I am so pleased to have been involved in the development

of this leaflet. I hope it helps people with hyperkalaemia or high potassium manage their potassium levels and ensure they stay within a healthy limit. Not only does it contain really valuable information on what potassium is and its role in the body, but the recipes included, I hope, will be of a great help to those struggling with managing potassium in their diets. The recipes are quick and easy to make while still being nutritious and packed with flavour. From stir-fried chicken to crème brûlée (my personal favourite!), we hope that this is a welcome addition to your kitchen.

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## What is potassium?

Potassium is an essential nutrient found in many foods, like bananas, potatoes and beans. Healthy kidneys maintain normal potassium levels in the body because they remove excess amounts through urine.

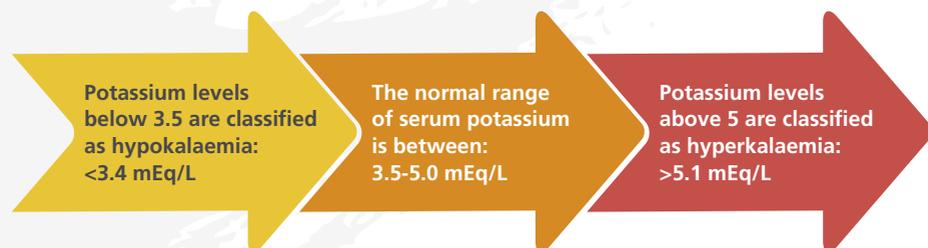
When in a normal range, potassium helps your nerves, cells and muscles, including your heart, to work in the right way.<sup>1</sup>

Chronic kidney disease is a long-term condition where your kidneys don't work as well as they should. Because of this you may be at a higher risk of developing high potassium levels.



## Monitoring potassium

Because having too much or too little potassium in the blood can be dangerous, your potassium levels will be monitored regularly through blood tests. Defining hyperkalaemia is not easy while values vary from person to person and day to day; the standard normal range of serum potassium is typically considered to be 3.5–5.0 mEq/L.<sup>2</sup> Hypokalaemia occurs when serum potassium drops below the normal range, while hyperkalaemia is defined as serum potassium levels above the upper limit of normal, typically defined as >5.0 mEq/L.<sup>2</sup>



## What is hyperkalaemia?

Hyperkalaemia is a medical condition that means you have too much potassium in your blood. In more extreme situations it can cause muscle weakness, paralysis and heart arrhythmias (a condition characterised by abnormal heart rhythm which may result in either too fast or slow heartbeat).<sup>2</sup> If you have been told you have high potassium levels, you may be advised to limit potassium in your diet to help manage the amount of potassium in your blood.

## Why does hyperkalaemia matter?

The way the body responds to hyperkalaemia is unpredictable. Many people have few, if any symptoms, and if symptoms do appear, they are usually mild and non-specific (some muscle weakness, numbness, tingling, nausea, or other unusual feelings).<sup>3</sup> Hyperkalaemia may be classified as mild, moderate, or severe based on potassium level.<sup>2</sup>



While hyperkalaemia is rarely associated with symptoms, moderate to severe hyperkalaemia can lead to disturbances of cardiac rhythm which can be life-threatening if not managed.<sup>3</sup>

## What causes hyperkalaemia?

Hyperkalaemia is common in people with advanced chronic kidney disease because their kidneys don't work as well as they should.<sup>3</sup> This means they may not be able to remove enough potassium from your body.<sup>3</sup>

Some of the risk factors for hyperkalaemia are:

- **A diet high in potassium:** Too much potassium-rich food can cause hyperkalaemia, especially in people with advanced kidney disease.<sup>2,3</sup>
- **Medicines that affect kidney function:** Cardiovascular disease is a common additional burden for people living with chronic kidney disease. Several medicines taken for heart disease and blood pressure can prevent the kidneys from removing enough potassium, causing potassium levels to rise.<sup>2,4</sup>
- **Other medical conditions:** Patients affected by Heart Failure and Diabetes Mellitus are at higher risk of developing hyperkalaemia.<sup>2</sup>

It's important to talk to your doctor about how best to manage your individual potassium levels.

## Managing potassium levels

There are preventative steps and lifestyle changes that can help to manage your potassium levels and keep them within normal ranges.

An important part of managing potassium levels in the long term is limiting the amount of potassium in your diet. Before making any change to your diet, you should discuss this with your doctor or kidney dietitian.<sup>3</sup>



## Potassium in food

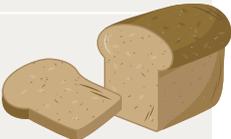
This leaflet includes recipes that may help you when making food choices, and provides some guidance to help with choosing ingredients when preparing your meals. The following tables give some examples of both foods that you should eat less of as they contain high amounts of potassium, as well as foods that have lower amounts of potassium and can be included in your diet.

It's important to remember that the size of the serving that you eat of each ingredient matters, as well as how the meal is prepared. A large amount of low potassium foods can easily become high in potassium. The way that food is cooked or prepared can also determine the potassium content. If you have any questions or need more information you should discuss this with your doctor or kidney dietitian.

### You should eat less of these foods (High-potassium foods)<sup>5</sup>

Fruits	Vegetables	Other
Apricots 	Avocados 	Nuts and nut butters 
Grapes 	Brussels sprouts 	Seeds 
Kiwis 	Sweet potatoes 	Bran and bran products 
Rhubarb 	Parsnips 	Chocolate 
Bananas 	Butternut squash 	Salt substitutes 
Coconuts 	Tomato and tomato-based products 	Limit milk (all types) 
Prunes 	Deep coloured and leafy green vegetables like cooked spinach 	
Raisins 	Dried beans, black beans, refried beans, baked beans 	

The following table provides some examples of foods that are lower in potassium. However, it's important to be mindful of how much of these foods you include in your diet, as well as how they are prepared, for example if they are raw, cooked or dried.

The good news is, you can include these in your diet (Lower-potassium foods) <sup>5</sup>		
Fruits	Vegetables	Other
Apples 	Asparagus 	Rice 
Blueberries 	Broccoli 	Noodles 
Oranges 	Cabbage 	Pasta 
Cranberries 	Cauliflower 	Bread and bread products (not including whole grains) 
Pears 	Corn 	
Pineapple 	Cucumber 	
Raspberries 	Aubergine 	
Strawberries 	Green beans 	
	Green peas 	
	Lettuce 	
	Onions 	
	Radishes 	
	Water chestnuts 	

## What changes may be needed?

There are many things that you can do to help manage your potassium levels. Please speak to your doctor and your kidney dietitian to find out which may be right for you. Here are a few examples:

- Limit foods that are high in potassium.
- Eat a variety of foods but in moderation.
- Aim for a healthy and balanced diet, which includes fruit and vegetables each day. Lower-potassium items should be chosen more often, with high-potassium options enjoyed in moderation only.
- Cook from fresh as much as possible. Potassium is often found in preservatives and additives in convenience or pre-packaged foods.
- Ensure that all vegetable and potatoes are peeled and boiled on the hob in plenty of water (do not use a microwave, steamer or pressure cooker, etc. for these foods) until cooked (no longer crunchy). Discard the cooking water and do not use for any gravy's, soups or stews etc.
- If adding to a stew/casserole, vegetables and potatoes should be prepared as above and drained before adding into the stew/casserole.
- Avoid drinking or using the liquid from canned fruits and vegetables.<sup>5</sup>
- Consider portion sizes as almost all foods have some potassium. A large amount of a low potassium food can turn into a high- potassium food.<sup>5</sup>
- Avoid salt substitutes, as these are potassium based.<sup>5</sup>
- Speak to your doctor or renal dietitian before taking herbal remedies or supplements.

# The Main Event



Serves 4



## Ingredients

225g	Chicken fillet (lean pork fillet may be used)
2 medium	Carrots, pre-boiled and drained
1 medium	Courgette, pre-boiled and drained
1 Small	Red pepper, pre-boiled and drained
½ tsp	Thai seven spice powder Oil for frying

### Analyses per portion

Energy (kcal)	280
Protein (g)	39
Fat (g)	11
Sodium (mmol)	13
Phosphorus (mmol)	6
Potassium (mmol)	24

## Stir-fried chicken

### Method

1. Cut the chicken into thin strips and fry in a small amount of oil using a wok or frying pan.
2. Cut the carrot, courgette and pepper into strips and add to the chicken.
3. Stir in the Thai seven spice powder.
4. Stir fry on a medium heat until the chicken is cooked through.

Serve with... noodles tossed in a little sesame oil if desired.

\*Note: This may use up your vegetable allowance for the day.

# For the sweet tooth



Serves 2



## Ingredients

2 Slices	Tinned pineapple
140ml	Double cream
1	Egg
50g	Caster Sugar
1 tsp	Vanilla essence

2 greased ramekins  
(approx. 8-9cm diameter).

## Method

1. Preheat the oven to 150° (Gas Mark 2).
2. Pat the pineapple dry with kitchen paper. Chop coarsely and place in the bottom of each ramekin.
3. Heat the cream gently until it bubbles around the edge but do not boil.
4. Add half the sugar to the egg in a mixing bowl and whisk until well blended. Gradually whisk in the cream then stir in the vanilla essence or brandy. Pour the mixture over the pineapple to 1cm from the rim.
5. Place the ramekins in a shallow roasting container filled with boiling water to a depth of 3cm or ¾ way up the ramekins. Bake in the oven for 25-30 minutes until the custard is set.
6. Remove, cool and chill for a minimum of 1 hour or overnight. Heat the grill to the hottest setting, sprinkle the remaining sugar over the top of the custard. Grill until brown and bubbling, turning the ramekin occasionally to ensure even browning.
7. Chill for 1 hour before serving.

## Crème Brûlée

### Analyses per portion

Energy (kcal)	520
Protein (g)	3
Fat (g)	43
Sodium (mmol)	2
Phosphorus (mmol)	2
Potassium (mmol)	3



# Potassium Matters

**The recipes included within this leaflet were provided by the National Kidney Federation. For more recipes, please explore the National Kidney Federation's recent cookbook, 'Taste': <https://www.kidney.org.uk/shop/nkf-cook-book>.**

**Thanks to the National Kidney Federation, Pumping Marvellous and Joanna Pulman from the British Dietetic Association for their counsel and contributions to this leaflet.**

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